

PATENT  
Serial No. 09/632,154

IN THE CLAIMS

Claims 1-3 (Cancelled)

4. (Currently Amended) A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, comprising:

- (a) receiving ~~data relating to motion~~ a position of at least some of the other users' avatars from the server process; and
- (b) determining from the received positions data a subset of the other users' avatars that are to be displayed to the first user.

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5. (Currently Amended) ~~The method of Claim 4, wherein~~ A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, wherein the method comprises:

(a) receiving a position of at least some of the other users' avatars from the server process; and

(b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user,

wherein steps (a) and (b) are performed by the client process associated with the first user.

~~step (a) comprises receiving, by the client process associated with the first user, data relating to motion of at least some of the other users' avatars from the server process and~~

~~step (b) comprises determining, by the client process associated with the first user, from the data a set of the other users' avatars that are to be displayed to the first user.~~

6. (Currently Amended) The method of Claim 5, further comprising the steps of

(c) monitoring an orientation ~~motion~~ of the first user's avatar; and

(d) displaying the set of the other users' avatars from based on the orientation

~~the perspective of the first user's avatar as monitored is step (c),~~

~~wherein steps (c) and (d) are performed by the client process associated with the first user.~~

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7. (Currently Amended) The method of Claim 5, wherein step (a) further comprises  
(a)(1) ~~receiving data relating to a position and an orientation~~ of at least some of  
the other users' avatars from the server process.

Cl  
8. (Currently Amended) The method of Claim 5, wherein step (b) comprises  
(b)(1) determining from the ~~data received~~ positions an actual number of the other  
users' avatars;  
(b)(2) determining a maximum number of the other users' avatars that can be  
displayed; and  
(b)(3) comparing the actual number to the maximum number to determine which  
of the other users' avatars are to be displayed,  
wherein steps (b)(1)-(b)(3) are performed by the client process associated with the  
first user.

/Claims 9-14 (Cancelled)

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Sub 15. (Currently Amended) A method for enabling two users to interact in a virtual space, wherein the first user has a first computer associated therewith, wherein the first computer has a first client process associated therewith, wherein the first client process has a first avatar associated therewith,

wherein the second user has a second computer associated therewith, wherein the second computer has a second client process associated therewith, wherein the second client process has a second avatar associated therewith, and

wherein the first and second client processes are in communication with a server process, comprising:

- C2
- (a) monitoring ~~movement~~ a position of the first and second avatars by the first and second client processes, respectively;
  - (b) ~~transmitting data indicating the movement~~ the positions of the first and second avatars by the first and second client processes, respectively, to the server process;
  - (c) ~~transmitting the data indicating the movement~~ the positions of the first and second avatars, by the server process, to the second and first client processes, respectively; and
  - (d) determining, by the second and first client processes, from ~~the data~~ indicating the movement the positions of the first and second avatars, respectively, whether to display the first and second avatars.

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16. (Previously Added) The method of Claim 15, further comprising the step of  
(e) displaying the first and second avatars when it is determined in step (d)  
that the first and second avatars are to be displayed.

17. (Currently Amended) The method of Claim 15, wherein step (c) comprises  
automatically transmitting the positions of the first and second avatars, by the server process, to  
the second and first client processes, respectively, ~~sending the data indicating a position of the~~  
~~first and second avatars, by the server process, to the second and first client processes,~~  
respectively.

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18. (Currently Amended) A method for enabling a plurality of users to interact in a virtual space, wherein each user has a computer associated therewith, wherein each computer has a client process associated therewith, wherein each client process has an avatar associated therewith, and wherein each client process is in communication with a server process, comprising:

- C2
- (a) monitoring, by each client process, ~~movement~~ a position of the avatar associated with the client process;
  - (b) transmitting, by each client process to the server process, ~~data indicating the movement~~ the position of the avatar associated with the client process;
  - (c) transmitting, by the server process to each client process, ~~the data indicating movement~~ the positions of at least some of the avatars that are not associated with the client process; and
  - (d) determining from the data transmitted in step (c), by each client process, at least some of the avatars that are not associated with the client process that are to be displayed.

19. (Currently Amended) The method of Claim 18, wherein the step (c) comprises the step of automatically transmitting, by the server process to each client process, the positions of at least some of the avatars that are not associated with the client process. ~~transmitting, by the server process to each client process, the data indicating the movement of at least some of the avatars that are not associated with the client process.~~

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20. (Currently Amended) The method of Claim 18, wherein step (d) comprises

- (d)(1) determining an actual number of avatars that are not associated with the client process based on the positions data transmitted by the server process;
- (d)(2) determining a maximum number of avatars that can be displayed; and
- (d)(3) comparing the actual number to the maximum number to determine which of the avatars are to be displayed.

Cx / 21. (Previously Amended) A server implemented method for enabling interaction between a plurality of users in a virtual space, wherein each user has a computer associated therewith, wherein each computer has a client process associated therewith, and wherein each computer is in communication with the server, comprising:

- (a) creating a user object for each of the plurality of users;
- (b) creating a room object for each room in the virtual space that is occupied by at least one of the plurality of users;
- (c) receiving data indicating a room, position, and orientation of each user from the user's client process; and
- (d) synchronously disseminating to each of the client processes a packet of information including the data received in step (c) so that the client process can determine from the packet a set of avatars that are to be displayed.

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Cd / 22. (Previously Amended) A method for operating a server to enable a plurality of users to interact in a virtual space, wherein each user has a computer associated therewith, wherein each computer has a client process associated therewith, wherein each client process has an avatar associated therewith, wherein the server has a process associated therewith, and wherein each client process is in communication with the server process, comprising:

(a) receiving, from each client process by the server process, data indicating a position of the avatar associated with the client process; and

(b) synchronously disseminating to each of the client processes a packet of information including the data received in step (a) so that the client process can determine from the packet a set of avatars that are to be displayed.



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23. (Currently Amended) An apparatus for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar associated therewith, and wherein the apparatus comprises a first process associated with the first user, other client processes associated with the other users, and a server process in communication with the first client process and the other client processes, wherein

- CD
- (a) each of the other client processes is operable to
    - 1. monitor ~~movement~~ a position of the avatar associated with the other user;
    - 2. transmit data ~~relating to the movement~~ the position of the avatar to the server process;
  - (b) the server process is operable to
    - 1. receive ~~the data relating to the movement~~ the positions of the avatars associated with the other users;
    - 2. transmit ~~the data relating to the movement~~ the positions of the avatars associated with at least some of the other users to the first client process; and
  - (c) the first client process is operable to
    - 1. receive ~~the data relating to the movement~~ the positions of the avatars associated with at least some of the other users; and
    - 2. determine from ~~the data received in (c)(1)~~ the received positions a set of the other users' avatars that are to be displayed.

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Sub 3  
24. (New) The method of Claim 5, wherein step (b) comprises determining from the data a set of the other users' avatars that are to be displayed to the first user, wherein the set comprises less than all of the other users' avatars.

C3  
25. (New) A software program for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client process is in communication with a server process, wherein the software program comprises instructions for causing the client process associated with the first user to perform the following steps:

- (a) receiving a position of at least some of the other users' avatars from the server process; and
- (b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user.